

We claim:

1. A multilayered polymeric structure for protecting electronic components comprising at least a first polymeric layer and a second polymeric layer in surface contact with one another, said first and second polymeric layers each containing a different amount of carbon fibrils.
2. The multilayered polymeric structure according to claim 1, wherein said first and said second polymeric layers each comprise from about 0.25% to about 35% by weight of carbon fibrils.
3. The multilayered polymeric structure according to claim 1, wherein said first and said second polymeric layers each comprise from about 1.0% to about 15% by weight of carbon fibrils.
4. The multilayered polymeric structure according to claim 1, wherein said first and said second polymeric layers each comprise from about 2.0% to about 7% by weight of carbon fibrils.
5. The multilayered polymeric structure according to claim 1, wherein said first polymeric layer comprises from about 0.25% to about 25% by weight of carbon fibrils and said second polymeric layer comprises from about 2% to about 35% by weight of carbon fibrils.
6. The multilayered polymeric structure according to claim 1, further comprising at least an electrically conductive material between said first polymeric layer and said second polymeric layer.
7. The multilayered polymeric structure according to claim 6, wherein the electrically conductive material is an adhesive.
8. The multilayered polymeric structure according to claim 1, wherein the surface resistance in said second polymeric layer is at least one order of magnitude greater than the surface resistance of said first polymeric layer.

9. The multilayered polymeric structure according to claim 1, wherein the surface resistance of each of said polymeric layers is in the range of 1×10^1 ohms per square to 1×10^{12} ohms per square.

10. The multilayered polymeric structure according to claim 9, wherein the surface resistance of said second polymeric layer is in the range of 1×10^1 to 1×10^6 ohms per square.

11. The multilayered polymeric structure according to claim 9, wherein the surface resistance of said first polymeric layer is in the range of 1×10^6 ohms per square to 1×10^{12} ohms per square.

10 ~~12.~~ A process for making a multilayered polymeric structure for protecting an electronic component which comprises:

(a) forming at least a first polymeric layer and a second polymeric layer, each layer comprising a different amount of carbon fibrils;

15 (b) combining said first and second polymeric layer to form said multilayered polymeric structure.

13. The process according to claim 12, wherein said first and second polymeric layers comprise from about 0.25% to about 35% by weight of carbon fibrils.

14. The process according to claim 12, wherein said first polymeric layer comprises from 0.25 to 25% by weight carbon fibrils and said second polymeric layer
20 comprises from 2% to 35% by weight carbon fibrils.

15. The process according to claim 12, wherein said layers are combined by coextrusion or lamination, or by two shot or multi-shot injection molding or by insert injection molding.

16. The process according to claim 12, wherein said first polymeric layer has
25 a higher surface resistance than said second polymeric layer.

17. The process according to claim 16, wherein said multilayered polymeric structure is formed into a tray or packaging material, wherein said electronic component is in contact with said first polymeric layer.

18. The process according to claim 16, further comprising forming third polymeric layer in surface contact with said first or said second polymeric layer, said third polymeric layer comprising from about 0.25% to about 35% by weight carbon fibrils.

~~19.~~ A process for making a bilayered polymeric structure for packaging of electronic components which comprises:

10 (a) forming a first polymeric sheet from a first molten composition comprising a polymer comprising from 0.26% to 25% by weight of carbon fibrils;

(b) forming a second polymeric sheet from a second molten composition comprising a polymer comprising from 2% to 35% by weight of carbon fibrils; and

15 (c) combining said first and second sheet into said bilayered polymeric structure.

20. The process according to claim 19, wherein said layers are combined by lamination or coextrusion, or two shot or multi-shot injection molding or by insert injection molding.

20 21. The process according to claim 19, wherein said first and second molten compositions are allowed to become cured after step (c) or cured sequentially.

22. The process according to claim 19, further comprising adding a conductive adhesive between said first polymeric sheet and said second polymeric sheet.

~~23.~~ A container for sensitive electrical components comprising:

(a) a first layer of polymeric material adapted to support an electrical component, said first polymeric layer comprising from about 0.25% to about 25% by weight carbon fibrils and having a resistivity in the range of from about 1×10^5 ohms per square to about 1×10^{12} ohms per square; and

5 (b) a second layer of polymeric material in surface contact with said first layer, said second layer forming the outer layer of said container comprising from about 2% to about 35% by weight carbon fibrils and having a resistivity in the range of from about 1×10^1 ohms per square to about 1×10^6 ohms per square.

24. The container of claim 23, further comprising at least an electrically
10 conductive material between said first polymeric layer and said second polymeric layer.

25. The container of claim 24, wherein the electrically conductive material is an adhesive.

26. The container of claim 23, wherein said first polymeric layer and said second polymeric layer comprise a hybrid mixture of PETG and PBT said mixture
15 comprising from about 0% to about 100% by weight PETG, the remaining portion being PBT.

27. The container of claim 23, further comprising a third polymeric layer in surface contact with said first or said second layer of polymeric material, said third polymeric layer comprising from about 0.25% to about 35% by weight carbon fibrils and
20 having a resistivity in the range from about 1×10^1 ohms per square to about 1×10^1 ohms per square.

~~28.~~ A protective covering for an electrical current carrying cable comprising:

(a) a first layer of polymeric material adapted to support an electrical component, said first polymeric layer comprising from about 0.25% to about 25% by
25 weight carbon fibrils and having a resistivity in the range of from about 1×10^5 ohms per square to about 1×10^{12} ohms per square; and

(b) a second layer of polymeric material in surface contact with said first layer, said second layer forming the outer layer of said container comprising from about 2% to about 35% by weight carbon fibrils and having a resistivity in the range of from about 1×10^1 ohms per square to about 1×10^6 ohms per square.

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